Measuring the Higgs boson width at the LHC

Luigi Marchese Department of Physics, University of Oxford, UK

In the Standard Model the Higgs boson is a very narrow resonance and therefore measuring its width is challenging.

How can we constrain the Higgs boson total width at the LHC?

Presently, the best limits on the Higgs boson total width at the LHC are set using the offshell Higgs production and decay to ZZ in the four-lepton or two-lepton-two neutrino final state and decay to WW in the two-lepton-two neutrino final state.

A review of all measurements performed by the ATLAS collaboration with Run 1 data and Run 2 data collected in 2015 and 2016 is presented.